UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,904	04/20/2001	Coby Royer		1675

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EXAMINER
LEMMA, SAMSON B

ART UNIT	PAPER NUMBER
2132	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/838,904	ROYER, COBY
	Examiner	**Art Unit**	
	Samson B Lemma	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2001*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is

    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

   Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   <u>Claims 1-21</u> have been examined.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   <u>Claims 1-21</u> are rejected under 35 U.S.C. 102 (b) as being anticipated by a

Publication title "A Security Paradigm for Web Databases" (hereinafter referred to as "**99**

Security) (Publication Date 1999) (reference U)

4.   <u>As per claims 1,4,8,10,11,15</u> "**99 Security** discloses a method for intercepting

a command sent to a manager program generated by a client program and determining

whether said command is characteristic of a normal application program, [Page 2,

under the Title " The Web Database Security Server" and page 3, figure 1, reference

"Web Database Security Server"]

- Intercepting said command; [Page 2, Column 2, reference number "(1)"

    "Secure Log On Procedure" and Page 3, figure 1; Page 3, column 1; Page 2,

    column 1, 2nd Paragraph and page 2, column 2, 2nd paragraph]

(Users/clients or Tier 1, request information from their browsers. The request/command of the user/client is to access information from the secure database through the Database Management System or Tier 4 or from Data Server Tier 4. This request/command is intercepted by the Web Database Security Server or Tier 3, which is acting like the firewalls but provide even more services than a firewall as explained on page 3, column 1)

• Preventing the direct sending of said command from said client program to said manager program; [Page 2, Column 2, reference number "(1)" "Secure Log On Procedure" and Page 3, figure 1; page 3, column 1 and 2; Page 2, column 1, 2nd Paragraph and page 2, column 2, 2nd paragraph] (Tier 3 or "WdbSS" prevents Tier 1 or the client from sending command/request directly to the Tier 4, meaning the request is intercepted by the "WdbSS")

• Performing an analysis upon said command; [Page 2, under the Title "The Web Database Security Server"; [Page 2, column 2, reference number "(1)" "2","3","(4)","(5)" and "(6)"; page 3; page 2, column 1, 2nd Paragraph; page 2, column 2, 2nd paragraph]

• Sending said command to said manager program if said analysis determines that said command is characteristic of a normal application program and preventing said command from reaching said manager program if said analysis determines that said command is not characteristic of a normal application program; [Page 2, column 2, reference number "(4)" and Page 2, Column 2, reference number "(1)"-"(6)" and Page 3, columns 1 and 2; Page 2, 1st column, 2nd Paragraph and page 2, 2nd column] whereby

• Said manager program is protected from commands that are sent from a client program that is under control of an attacker.[Page 2, column 2, 2nd

paragraph under the Title "The Web Database Security Server", the last 5 lines;

Page 3 , columns 1-2] (On the above stated pages it is disclosed by the reference

that the integrated security component implemented in Tier 3 acts as the

WdbSS, and will provide some of the security services for the network as well as

the security services for the secure database. The reference on page 3 also

discloses that the WdbSS provides many more services than the conventional

firewalls for SQL and it also discloses that the WdbSS provides an additional

firewall, checking not only the URL of the user, but also whether or not a valid

database operation is being requested.)

5.   **As per claims 2 and 9,** **"99 Security** the method of intercepting a command

sent to a manager program as applied to claims 1 and 8 above. Furthermore "99

Security discloses the method further comprising the step of: permanently storing said

command. [Page 2, Column 1, 1st Paragraph and figure 3, reference "DBMS"] (A

"DBMS" by definition is nothing but a collection of programs that enables the clients to

store, modify, and extract information command/query/request from a database)

6.   **As per claims 6, 11 and 13,** **"99 Security** the method of intercepting a

command sent to a manager program as applied to claim 1 above. Furthermore "99

Security discloses the method wherein, said manager program is a database

manager.[Page 3, figure 1, reference "DBMS"]

7.   **As per claims 7,12 and 16** **"99 Security** the method of intercepting a

command sent to a manager program as applied to claim 1 above. Furthermore "99

Security discloses the method wherein, said command is a Structured Query Language

query.[Page 1, column 2, paragraph 1; Page 2, Column 2, 2nd paragraph] (On these

paragraphs mentioned above, "SQL" is mentioned on page 1, column 2, paragraph 2

and it is also disclosed that the Tier 3, "WdbSS" is the middleware including JDBC. And

It is known that JDBC or Java Database Connectivity, a Java API that enables Java

programs to execute SQL statements. This allows Java programs to interact with any

SQL-compliant database. Since nearly all relational database management systems

(DBMSs) support SQL, and because Java itself runs on most platforms, JDBC makes it

possible to write a single database application that can run on different platforms and

interact with different DBMSs.)

8.   **As per claims 17,18 and 19** "99 Security discloses the method as applied to

claim 13 above. Furthermore "99 Security discloses the method wherein, said storage

manager comprises an indexed file system storage. [Page 2, column 1, paragraph "2"]

(Ftp is file Transfer Protocol, the protocol for exchanging files over the Internet. FTP

works in the same way as HTTP for transferring Web pages from a server to a user's

browser and SMTP for transferring electronic mail across the Internet in that, like these

technologies, FTP uses the Internet's TCP/IP protocols to enable data transfer.)

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not
> identically disclosed or described as set forth in section 102 of
> this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a
> whole would have been obvious at the time the invention was made to a
> person having ordinary skill in the art to which said subject matter
> pertains. Patentability shall not be negated by the manner in
> which the invention was made.

10.   **Claims 3,5,14, 20 and 21** are rejected under 35 U.S.C. 103 (a) as being

unpatentable over a Publication title "A Security Paradigm for Web Database"

(hereinafter referred to as **"99 Security**) (Publication Date '1999)(reference U) in

view of **Victor Kouznets v** (hereinafter referred as **Kouzn tsov**) (U.S. Patent

No: 6, 725,377)

11.   **As per claims 3, 5,14, 20 and 21**, **"99 Security** discloses a firewall/Web

Database Security Server capable of intercepting a request/command preventing

unauthorized access to a network [Page 2, Column 1, paragraph 2nd]

"99 Security further discloses

- Intercepting said command; [Page 2, Column 2, reference number "(1)"

    "Secure Log On Procedure" and Page 3, figure 1; Page 3, column 1; Page 2,

    column 1, 2nd Paragraph and page 2, column 2, 2nd paragraph]

    (Users/clients or Tier 1, request information from their browsers. The

    request/command of the user/client is to access information from the secure

    database through the Database Management System or Tier 4 or from Data

    Server Tier 4. This request/command is intercepted by the Web Database

    Security Server or Tier 3, which is acting like the firewalls but provide even

    more services than a firewall as explained on page 3, column 1)

- Preventing the direct sending of said command from said client program

    to said manager program; [Page 2, Column 2, reference number "(1)" "Secure Log

    On Procedure" and Page 3, figure 1; page 3, column 1 and 2; Page 2, column 1,

    2nd Paragraph and page 2, column 2, 2nd paragraph] (Tier 3 or "WdbSS"

    prevents Tier 1 or the client from sending command/request directly to the Tier

    4, meaning the request is intercepted by the "WdbSS")

- Performing an analysis upon said command; [Page 2, under the Title

    "The Web Database Security Server"; [Page 2, column 2, reference number "(1)"

    "2","3","(4)","(5)" and "(6)"; page 3; page 2, column 1, 2nd Paragraph; page 2,

    column 2, 2nd paragraph]

• Sending said command to said manager program if said analysis

determines that said command is characteristic of a normal application program

and preventing said command from reaching said manager program if said

analysis determines that said command is not characteristic of a normal

application program; [Page 2, column 2, reference number "(4)" and Page 2,

Column 2, reference number "(1)"-"(6)" and Page 3, columns 1 and 2; Page 2, 1st

column, 2nd Paragraph and page 2, 2nd column] whereby

• Said manager program is protected from commands that are sent from a

client program that is under control of an attacker.[Page 2, column 2,

2nd paragraph under the Title "The Web Database Security Server", the

last 5 lines; Page 3 , columns 1-2] (On the above stated pages it is

disclosed by the reference that the integrated security component

implemented in Tier 3 acts as the WdbSS, and will provide some of the

security services for the network as well as the security services for the

secure database. The reference on page 3 also discloses that the WdbSS

provides many more services than the conventional firewalls for SQL and

it also discloses that the WdbSS provides an additional firewall, checking

not only the URL of the user, but also whether or not a valid database

operation is being requested.)

"99 Security does not explicitly teach

• Alerting an administrator through a, notification channel if said

analysis determines that said command is not characteristic of a normal

application program. And

• Storing attacker patterns that correspond to commands

generated by a client program that is under control of an attacker, said

analyzing step comprises: determining whether said command

corresponds to said stored attacker patterns, and determining that said

command is not characteristic of a normal application program if said

analysis determines that said command corresponds to any of said

attacker patterns.

However, in the same field of endeavor, **Kouznetsov discloses**

- Alerting an administrator through a, notification channel if said

analysis determines that said command is not characteristic of a normal

application program [column 1, lines 49-62; column 1, lines 49-column 2, lines

13]

- Storing attacker patterns that correspond to commands

generated by a client program that is under control of an attacker, said

analyzing step comprises: determining whether said command corresponds to

said stored attacker patterns, and determining that said command is not

characteristic of a normal application program if said analysis determines that

said command corresponds to any of said attacker patterns. [column 1, lines 49-

column 2, line 13; Column 5, lines 14-20;column 5, lines 24-36; "Abstract"]

It would have been obvious to one having ordinary skill in the art, at the time

the invention was made, to combine the altering and the storing of an attacker

patterns as per teachings of **Kouznetsov** in to the method of intercepting,

preventing and performing analysis of the command/request before they are

sent to the manager program as taught by **"99 Security** for the purpose of

strengthening the security of the database from being easily attacked by

malicious hackers.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.(See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAMSON LEMMA

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01/21/2005

THOMAS R. PEESO
PRIMARY EXAMINER